



木林森MLS

中山市木林森电器有限公司  
Zhongshan MLS Electrical Appliance Co., Ltd.

# 规格书

## SPECIFICATION FOR APPROVAL

CUSTOMER/客户: \_\_\_\_\_

CUSTOMER P.N./客户物料号: 24V1A 欧规 白色

MODEL NO./产品型号: M240100-A033EU

DESIGN NO./设计编号: MXXXYYY-A033

Sample NO./样品编号.: 2402007

SAMPLE DATE/送样日期: 2024/2/22

CUSTOMER APPROVAL 客户确认		
CHNFIRM 确认	CHECK 审核	APPROVAL 批准

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature./客户确认签字，盖章后请回传一份承认书给我司

MANUFACTURER 制造商		
DESIGN 制定	CHECK 审核	APPROVAL 批准

广东省中山市小榄镇木林森大道木林森股份有限公司1栋4楼  
4F, Building 1, No.1, Mu Lin Sen Road, Xiaolan Town, 528400 Zhongshan City,  
Guangdong Province, PEOPLE'S REPUBLIC OF CHINA.

## E. C. LIST/变更履历表

Rev.版本	Description of Change/变更内容描述		Changed Date/日期
	Before/变更前	After/变更后	
A			
B			
C			

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### 3. Input Characteristics/输入特性

#### 1. SCOPE/概述

The document details the electrical, mechanical and environmental specifications of a SMPS, the power supply provides 24 W continuous output power.

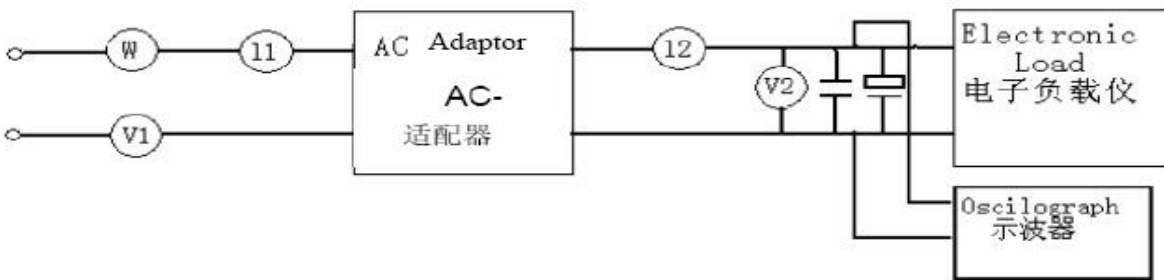
资料详细描述了一款 24 W(连续输出功率)开关电源的电气性,结构性及环境等要求

The power supply shall meet the RoHS requirements. 此款电源符合RoHS要求.

- Adaptor(Wall mount)/插墙式适配器  Adaptor(Desk-top)/桌面型适配器  
 Open Frame/无外壳开放式结构  Industrial power supply With Case/带铁壳型  
 Others/其他: 车充

#### 1. Electrical Characteristic (电气特性)

##### 1.1 Test Circuit (测试电路)



#### 2. Input Characteristics/输入特性

##### 2.1. Input Voltage & Frequency/输入电压与频率

	Minimum/最小	Rating/额定值	Maximum/最大
Input Voltage/输入电压	200Vac	220 Vac~240 Vac	240Vac
Input Frequency/输入频率	50Hz	60Hz/50Hz	63Hz

##### 2.2. Input AC Current / 输入电流

0.5A max. @ 90Vac input & Full load/在90Vac 输入和满载条件下最大 0.5 A

Inrush Current (cold start)/浪涌电流(冷启动 @ 230V AC)

No damage for 230V/50Hz at cold start (25°C). 在冷开机条件下, 最大浪涌电流对机型不损坏.

##### 2.3. Average Efficiency /平均效率

While input 115Vac and 230Vac,the average efficiency is more than 86.2%.The test point is at 25%, 50%,75% and 100% of max load respectively

在输入115Vac和230Vac条件下, 平均效率不小于86.2%测试点分别是最大载的25%,50%,75% 和100%。

##### 2.4. Standby power / 空载功耗

Standby power < 0.1 W @ 230VAC/50Hz. 在输入230Vac, 空载功耗小于 0.1 W.

##### 2.5. Peak Inrush Current (峰值输入电流)

With cold starting, the peak inrush current should less than 30A

(电源启动时最大峰值输入电流小于30A)

## 4. Output Characteristics/输出特性

### 3. Output Characteristics/输出特性

RATED OUTPUT / 额定输出	Rated Load/额定负载		Remark 备注
	Min.	Max.	
Output Voltage(unload) / 空载输出电压	22.8V	25.2V	
Output Voltage(Full load) / 负载输出电压	22.8V	25.2V	
Output Current / 输出电流规格	0A	1.0A	
Turn - on Delay Time/开机延迟时间		3S	
Hold-up Time/关机维持时间	5mS		
Ripple & Nasic / 纹波与噪声		240 mVp-p	
OCP / 过电流保护		2.0A Max	
power Wp-p / 峰值功率			

Ripple & Noise: Tested by a oscilloscope using 20MHz bandwidth and the output is paralleled a 0.1uF ceramic capacitor and a 47uF electrolysis capacitor

纹波与噪声: 量测时示波器选用20MHz带宽限制,输出端要并联一颗0.1uF的陶瓷电容和一颗47uF的电解电容

### 4. Protection Requirements/保护要求

#### 4.1. Over Current Protection/过流保护

OCP Point Limited: 140%-200% auto restart 保护点限制: 140%-200%自动保护

The output shall hiccup when the over current applied to the output , and shall be self-recovery when the fault condition is removed

当过电流时,输出将进入打嗝模式,当过流情况解除后,产品将会自动恢复正常

#### 4.2. Continuous Working (连续工作时间)

With the rated voltage charged to the primary and output current 1000mA, after continuously work 24hours have no damage.(在输入额定电压和输出电流 1000mA 的条件下,连续工作24 小时,无任何故障。)

#### 4.3. Short Circuit Protection/短路保护

The input power shall decrease when the output is short to GND, the power supply shall not damage, and shall be self-recovery when the fault condition is removed

当输出对地短路时,产品输入功率降低且不会损伤,当短路情况解除后,产品将会自动恢复正常

### 5. Environment Requirements/环境要求

#### 5.1. Operating Temperature and Relative Humidity/操作温度和湿度要求

0°C to +40°C 20%RH to 80%RH @ Sea level shall below or no more than 10,000 feet

在海拔小于或等于10,000英尺的条件下,低温工作下限为0°C,高温工作上限为 +40°C,相对湿度为20%RH to 80%RH。

#### 5.2 Storage Temperature and Relative Humidity/存储温度和湿度要求

-30°C to +70°C 10%RH to 90%RH (non-condensing) @ Sea level shall below 30,000 feet

在海拔低于30,000英尺的条件下,低温存储下限为-30°C(无结冰环境);高温存储上限为+70°C,相对湿度为10%RH to 90%RH

#### 5.3. Vibration/振动

10 to 300Hz sweep at a constant acceleration of 1.0G(Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z

扫描频率: 10 to 300Hz, 加速度: 1.0G(位移: 3.5mm), X, Y, Z三垂直坐标轴向各振动1小时

5.4 This product does not have dimming function and can be paired with a suitable controller to achieve the corresponding function.该产品不具备调光功能,可以搭配适合的控制器的实现相应功能。

## 5.EMC/ Safety Standards/EMI/EMS标准

### 6. EMC Standards & Safety Standards / EMC标准与安规标准

#### 6.1. EMC Standards/EMC标准

GB9254	GB17625.1	GB13837	FCC- Part15
EN 55032	EN55024	CISPR 22	EN 61000-4-4
EN 61000-3-2	EN 61000-3-3	EN 61000-4-2	EN 61000-4-3
EN 61000-4-5	EN 61000-4-6	EN 61000-4-8	EN 61000-4-11

#### 6.1.2. Safety Standards / 安规标准

Type	Country	Standard	Type	Country	Standard
CCC	China	GB4943	CE	Europe	EN62368-1
UL/CUL	USA	UL62368-1	CB	CB	IEC62368
KC	Korea	KC62368	C-TICK	Australia	AS/NZ62368
			GS/TUV	German	EN62368

#### 6.1.3. Dielectric Strength(Hi-pot)/介电耐压强度(高压)

Primary to Secondary: 3000Vac / 5mA / 60 seconds (3 seconds for production)

初级对次级:3000Vac / 5mA / 60秒(生产时高压测试时间: 3秒)

#### 6.1.4. Leakage Current/漏电流

0.25mA max. at 240Vac / 50Hz input/在输入240Vac/50Hz的条件下最大 0.25 mA

#### 6.1.5 .Insulation Resistance/绝缘阻抗

100MΩ min. @ primary to secondary add a 500Vdc test voltage

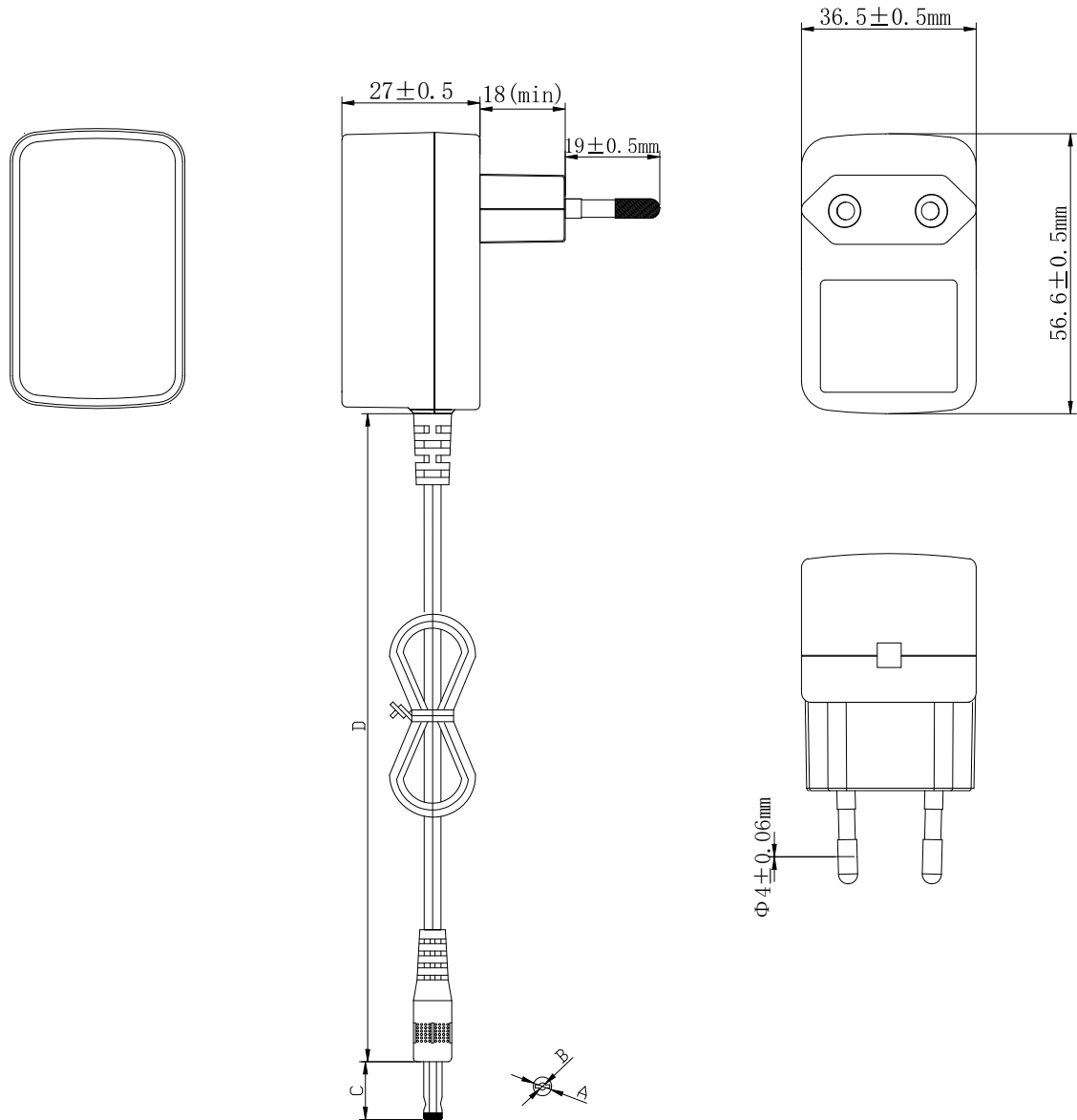
在初级与次级间加500Vdc进行测试,最小100MΩ

#### 6.1.6 雷击测试(Lightning Surge): 2KV ( DM ); ±2KV ( CM )

### 7. Testing Equipment / 测试设备

	Testing Equipment / 测试设备	Model/型号	Validity/有效期	Remark/备注
1	AC Source / 交流输入电源	华仪6205-300W	2024.10.05	
2	Power Meter / 电源功率计	UI2011	2024.10.05	
3	Electronic Load / 电子负载	Chroma-63030C	2024.10.05	
4	Oscilloscopes / 示波器	TDS1012B	2024.10.05	
5	Digital Multimeter / 数字万用表	VC9807A	2024.10.05	
6	DC Power / 直流输入电源	PC-303DM	2024.10.05	
7	HI-POT Tester / 耐压测试仪	华仪7410	2024.10.05	
8	Hybrid Recorder / 混合记录仪	YOKOGAWA DR130	2024.10.05	
9	Cons. T/H Simulator / 恒温恒湿仪	TH-A4H 1-150	2024.10.05	
10	Insulation Resistance Tester / 绝缘电阻表	华仪7410	2024.10.05	

## 6.OUTLOOK DRAWING (外观图)



	$\Phi A$	$\Phi B$	C	D
DIMENSION/尺寸	5.5	2.1	10	1500
TOLERANCE/公差	$\pm 0.05$	$\pm 0.05$	$\pm 0.5$	$\pm 50$

### NOTE:

1>UNIT/单位: mm





2>UL 2468 22AWG 80°C 300V VW-1 L=1500±50mm;


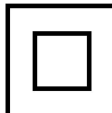

3>PLUG: 5.5\*2.1\*10mm ,内正外负, inside"+",outside"-";

4>The DC line swing frequency 45 times/min; The swing Angle of plus or minus 60 degrees, weighs 150 grams, the number of 1500 times; /DC线摇摆频率45次/分;摇摆角度正负60度,吊重150克, 次数1500次;

5>Color: While;

## 7.Label Drawing/标贴图

**AC/DC ADAPTER**  
**For LED modules only**  
**MODEL: M240100-A033EU**  
**INPUT: 220-240V~**  
**50/60Hz 0.6A**  
**OUTPUT: 24.0V=1.0A 24.0W**  

**SELV**   
 ta=40°C - tc=75°C  
  
 **MADE IN CHINA CV**  
 Zhongshan MLS Electrical Appliance Co., Ltd.  
 5F, Building 4, No.1, Mu Lin Sen Road, Xiaolan Town,  
 Zhongshan City, Guangdong Province, P.R.C.

	Indoor use only
	Protection class II appliance
	<p>The appliance shall not be disposed together with the normal waste. It must be recycled. Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.</p> <p>Contact your local government for information regarding the collection systems available.</p> <p>If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.</p> <p>When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.</p>

### Note:

UNIT/单位: mm

TOLERANCE/公差: +0/-0.2

1. 标贴镭雕

\* 铭牌资料供客户样品认可使用,如有疑问,请于样品认可前提出,否则,资料将视作客户认可并应用于生产上.

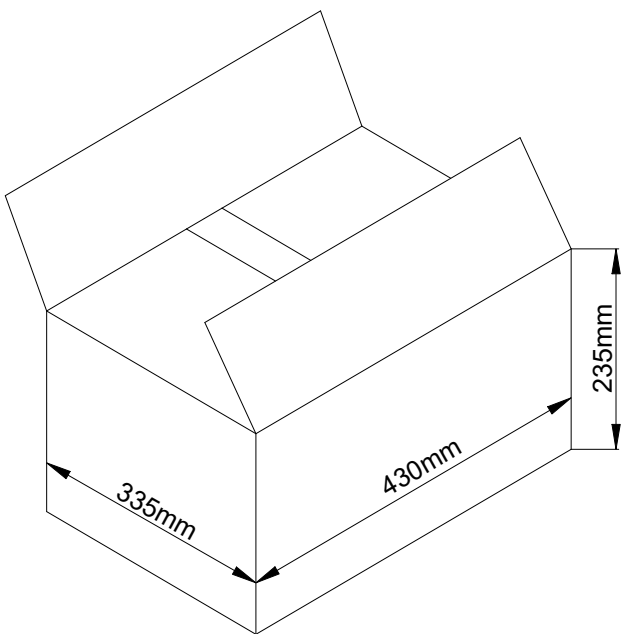
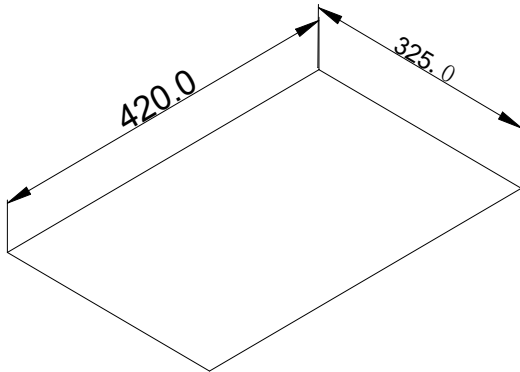
\* PLEASE ADVISE IF ANY COMMENT ON NAME PLATE INFORMATION. OTHERWISE THIS INFORMATION IS REGARDED AS CUSTOMER APPROVAL AND APPLY IN PRODUCTION.

## 8.Package Drawing/包装示意图

1.单个产品重量75g



2.外箱包装图





## 9.MLS Electrical PRIMARY TEST REPORT/木林森电器样品检验报告

客户/CUSTOMER		样品编号/Sample NO.					
Design No./ 设计编号:		Model No. / 机型:			24V1A		
测试项目/Test Items.	测试条件/Test Condition	样品数量和测试结果/Sample quantity and test result					PASS / FAIL
适配器样品号 / Adapter sample		#1	#2	#3	#4	#5	
Unload output voltage / (CC mode)空载输出电压 (1.0A) 22.8 Vdc~ 25.2 Vdc	100Vac	/	/				
	240Vac	24.01	23.91				
Rated load output voltage / (CC mode)额定负载输出电压 (A) 11.4 Vdc~ 12.6 Vdc	100Vac	/	/				
	240Vac	23.68	23.60				
Rate Load Cold Ripple(CC mode)冷态纹波 ( 1.0 A ) < 240 mV	100Vac	/	/				
	240Vac	86	79				
AC Over Voltage Protection AC过压保护 300-350		/	/				
过电流测试/Over current protection test < 2 A	90Vac	/	/				
	264Vac	1.7	1.7				
空载待机功耗 Standby ≤ 0.1 W	90Vac	/	/				
	264Vac	0.08	0.08				
Efficiency / 效率 ≥ 86.2%	115Vac	/	/				
	230Vac	87.00%	87.08%				
介电强度/Hi-pot test	3kVAc/5.0mA/ 60Minute	OK	OK				
重载转空载测试/Rated load to no load test	电压无跳动现象	OK	OK				
开/关机测试/Power ON/OFF Cycling Tes	共20次无损坏	OK	OK				
日期 / DATE	2024/2/22	版本/EDITION	A0	页码 / PAGE	1 OF 1		
测试 / TEST	李雄刚	审核/QC CHE.		审核EE / CHE.	周邦勇		